

Accession Impacts: Central and Eastern Europe

While EFTA-3 accession already occurred and its direct agricultural implications are likely to be minor, accession of countries from Central and Eastern Europe (CEEC's) is in the future, but its implications for EU agricultural markets and policies may be very significant. Indeed, agriculture is rightly considered to be one of the "political land mines" on the way toward eastern enlargement of the EU.

Policy Issues

There is no doubt that the EU has the political will to include the CEEC's, and to do so as soon as possible. At the Copenhagen Summit in June 1993, the EU heads of state and government agreed "that the associated countries in Central and Eastern Europe that so desire shall become members of the European Union" as soon as they are able "to assume the obligations of membership by satisfying the economic and political conditions required." This intention was strongly reconfirmed by the December 1994 Essen Summit and gained power from the presence of the heads of government of the associated CEEC's at that Summit and later Summits. Eastern enlargement is one of the most important political projects of the EU for the years to come, and discussions on how to proceed will intensify greatly in the near future.

Currently the timing of CEEC accession and the sequence of individual CEEC's to become new members of the EU are unknown. Many in the EU believe that the Union will have to rearrange its own institutional structure before it can seriously begin to negotiate on Eastern enlargement. The Intergovernmental Conference (IGC), which convened in 1996, was to deal with related issues, such as voting procedures in the Council of Ministers, the size of the Commission, and the composition of the European Parliament in order to adjust EU institutions to the larger Union resulting from EFTA enlargement and future rounds of enlargement. Unfortunately, the IGC concluded in June 1997 without solving any of these issues, leaving them to yet another IGC.

At the conclusion of the IGC, the European Commission announced that accession negotiations with some of the CEEC's should be initiated in 1998. Of the CEEC's included in this report (the Czech Republic, Hungary, Poland, Slovakia), only Slovakia was not invited to start discussions next year. This announcement came well after the conclusion of this report; further analysis, excluding Slovakia, has not been undertaken.²⁵ Furthermore, Slovakia is a relatively small country whose exclusion from the analysis would not materially affect the results. But Slovakia, the remaining Balkan countries (Romania and Bulgaria), and the two Baltic states (Latvia and Lithuania) were assured that they too could start negotiations after further reforms. Within a few years the EU is likely, therefore, to be engaged in accession negotiations with all the CEEC's with whom it now has association agreements. Actual membership of any CEEC is unlikely to be achieved much before the year 2000, but it is probable that around the turn of the century or shortly thereafter the first round of Eastern enlargement may take place.

At the time of this analysis it was not clear which group of CEEC's would be included in the first enlargement wave. The four Visegrad countries were selected for this analysis for a variety of reasons. The Czech Republic and Hungary may be at the top of the list as far as economic criteria are concerned. However, for political reasons having to do with geo-strategic considerations, Poland is unlikely to be left out of the first wave of CEEC accession. When the scenarios were constructed, political considerations were expected to lead to Slovakia's inclusion in the first group. Hence, the whole of the Visegrad-4 group were assumed to be in the same boat in terms of Eastern enlargement, so the current study modeled the addition of all four Visegrad countries in the EU with the year 2000 a possible date for entry in the simulation runs dealing with CEEC's accession (scenarios 3 and 4).

Agriculture: The Political "Land Mine"

Agriculture is a "political land mine" on the way to Eastern enlargement of the EU for a number of rea-

²⁵ The other countries invited to negotiate accession in 1998, Cyprus, Slovenia, and Estonia, are also excluded from this analysis.

Table 15—Share of agriculture in total GDP and employment in the CEEC's and in the EU, 1993

Country	GDP	Employment
Bulgaria	12.1	21.2
Czech Republic	3.3	5.6
Hungary	6.4	10.1
Poland	6.3	25.5
Romania	20.2	25.5
Slovak Republic	5.8	7.4
Slovenia	4.9	10.2
EU-12	2.5	5.7
Portugal	3.2	11.6
Greece	14.2	21.3
Ireland	8.9	12.2

Source: European Commission (1995a and c).

sons. Eastern enlargement could create difficulties for the viability of the CAP because agriculture in the CEEC's is simply much more important, in terms of its contribution to both employment and GDP, than in the EU on average, even in the poorer member states of the current Union, except Greece (table 15).

With the CEEC's accession, the EU would become much more agricultural than it currently is. If all 10 CEEC's currently in association agreements with the EU had acceded to the Union in 1993, the GDP of the EU-15 would have grown by only 3.2 percent, but the size of EU agriculture would have increased by approximately one-third (table 16). The Visegrad-4 countries account for a large share of total CEEC agricultural production, and agricultural output for these four candidates is large relative to that of the EU-12 (fig. 1).

The period 1989-91 is not a good starting point for assessing the importance of CEEC accession to agriculture. Major changes have taken place in the CEEC's since that period as a result of the transformation processes in these countries. In the base period for ESIM data (the average of 1989 to 1991), the Visegrad-4 countries jointly produced as much as one-third of EU-12 total grain production, approximately one-quarter of EU-12 milk and pork output, more than one-fourth of EU-12 production of sugar and oilseeds,

Table 16—Size of agriculture in the 10 CEEC's relative to the EU-15, 1993

Indicator	CEEC-10 as percent of EU-12
Arable land	54.9
Agric. employment	116.5
Cereals production	43.0
Pork production	25.1
Milk production	21.7
Beef production	17.8
Overall GDP	3.2

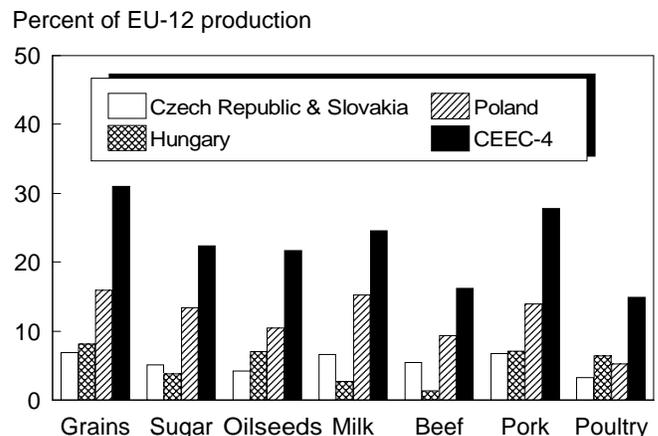
Source: European Commission (1995a and c).

and approximately one-sixth of beef and poultry output of the EU-12.

As a result, the agricultural potential of the CEEC-4 may seem smaller, and therefore less threatening, for the CAP than may have been the case in the late 1980's. On the other hand, food demand and overall use of agricultural products in the CEEC-4 fell significantly since transformation began, and net trade in agriculture changed less than the decline in output might suggest. With these fundamental changes resulting from the transition process in the CEEC-4, the future of their agricultural markets, and therefore the agricultural implications of their accession to the EU, are not immediately obvious.

Figure 1

Share of CEEC-4 countries in EU-12 output of selected products, 1989-91



Source: European Simulation Model.

Modeling Issues

The fundamental changes that occurred in the CEEC-4 in recent years pose a significant problem for the scenario analysis to be pursued with ESIM. To put it in abstract terms, in an analytical framework like ESIM and with the policy scenarios considered here, a major part of the action takes place in the form of movements on given supply and demand curves resulting from price changes implied by policy shifts such as accession to the EU. The results of such an analysis may be relatively robust where the conditions determining supply and demand, except for price changes, are reasonably stable.

In the CEEC-4, on the other hand, both supply and demand curves for agricultural products have shifted significantly in the recent past and may continue to shift for some time due to economic and political restructuring. Against that background, using the general base period for ESIM, 1989-91, as the starting point for scenario analysis seemed inappropriate. Instead, data for the most recent year for which statistics were available (at the time of the analysis), 1993, were used to re-calibrate models for the CEEC-4 countries, so for all years after 1993 the CEEC-4 models are effectively run off a 1993 base.

However, assumptions made about the future location of supply and demand curves relative to that starting point preclude a fair amount of speculation into these assumptions. One way of injecting speculation is to look at the nature of changes between 1989, when transition began, and 1993 to judge whether supply and demand conditions may, at least partially, have returned to where they were before the transformation process, or whether the changes which have taken place in recent years should be extrapolated into the future.

On the demand side, several factors contributed to the decline in food consumption in the CEEC's since transition began, but the most important elements in the equation can probably be identified with reasonable certainty. One decisive factor was the elimination of the large subsidies that governments in centrally planned economies introduced into the agricultural

and retail food systems in order to keep food prices low in spite of high production costs resulting from inefficient production structures in both agriculture and the food industry. This change is likely to be permanent.

Another factor behind the decline in consumption of traditional foods during the transition process probably was the appearance of consumer goods not earlier available on the market. This factor will also be permanent. A transitory factor, on the other hand, will be the decline in real consumer incomes that has taken place during the transformation process, and the significant increase in unemployment and the resulting uncertainties. The income factor is easy to take into account in the scenario analysis through appropriate assumptions on future growth of consumer incomes.

Most of the other factors behind the decline in food consumption are likely to be non-transitory, so the model assumed that consumption levels reached in 1993 can be used as a starting point for the scenario analysis. Future demand is derived from these levels based on expected changes in prices, real incomes, and population, but no additional shifters are assumed for human demand in the CEEC's.

On the supply side, the factors that resulted in the notable output decline were more complex than on the demand side. Real producer prices in agriculture have fallen significantly. In part, this price decline reflected decreasing demand, both domestically and for exports to other countries in the orbit of the FSU. Elimination of consumer subsidies was another factor behind the price declines. Difficulties in the food industry, which spilled over into the market for raw agricultural products, added to the decline of real farm product prices. Whatever the reasons, the strong real price decline during transition is not in itself a problem for an analysis using a model like ESIM, because the decline did not result in a shift of supply curves (except for cross-commodity price effects, which are fully taken into account in ESIM), but rather a movement on existing supply schedules.

Other factors added to the decline in the CEEC's agricultural production, most notably the many and far-reaching difficulties involved in the fundamental

restructuring of agriculture which went along with privatization and de-collectivization. Traumatic as these changes were, many of the implications for agricultural output are likely to be transitory. Once the difficult and painful process of privatization and restructuring is complete, CEEC agriculture is likely to emerge with better productivity than before transition began. What this means for the future location of supply curves in CEEC agriculture is less clear. Reduced factor input, particularly labor, may well compensate for much, if not all, of the expected productivity gains.

It is probably safe to assume that supply curves in CEEC agriculture will tend to shift to the right from where they were in 1993. Agriculture is not the only sector where output has fallen dramatically during the transition process in the CEEC's. In fact, agriculture has proven more robust in the transformation process than other sectors. Relative to industrial output, agricultural production has actually increased in most CEEC's. This relative health of CEEC agriculture during the transition process may justify some cautious optimism regarding the ability of the farming industry in the Visegrad-4 countries to recover from some of the output decline suffered during the first few years of transition.

In the ESIM components for the Visegrad-4 countries, shifters have therefore been used to move supply curves gradually to the right from their 1993 locations. Though these shifters are essentially arbitrary and reflect the authors' views on what might happen in CEEC-4 agriculture in the years to come, they are basically set so that most of the decline in output between the base period (1989-91) and 1993 is recovered by the year 2000. For feed demand of the individual livestock categories, the assumption was made that feeding efficiency will increase, from 1994 onward, by an annual rate of 0.5 percent.

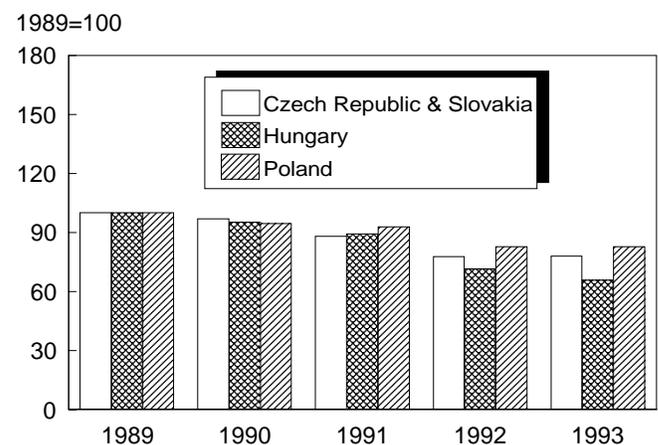
An important issue in modeling market and trade policies for the Visegrad-4 countries was to define their starting point appropriately. Base period 1993 price levels for the commodities included in ESIM needed to be determined in a way consistent with price definitions used for the EU, where CAP price policies operate at the level of wholesale prices. For example,

intervention prices are prices to wholesalers, rather than farm gate prices. Hence, in order to measure price gaps between the Visegrad-4 countries and the EU, the appropriate wholesale level prices for the Visegrad-4 countries were needed.

Unfortunately, agricultural price information for the Visegrad-4 countries is generally still somewhat of a problem, and wholesale prices are not usually available. Therefore, farm gate prices from national statistics were used as a starting point and assumed marketing margins between farm gate and wholesale level were added. The margins assumed were generally those used by OECD in their PSE calculations for Hungary (OECD, 1994b) and Poland (OECD, 1995).

The resulting price gaps in 1993 between the Visegrad-4 countries and the EU (calculated at 1993 actual exchange rates) are shown for major products in figure 3, where 1993 EU prices are set equal to 100. Agricultural prices have differed significantly among the Visegrad-4 countries but generally have been considerably below prices in the EU. In many cases, a Visegrad-4 country's prices in 1993 were close to world market prices. As a result of the MacSharry reforms and due to future assumed inflation in the EU, CAP prices in real terms will fall by the year 2000, closing the price gap between the Visegrad-4 countries and the EU. Consequently, the

Figure 2
Gross agricultural output in selected CEEC's during transition



Source: Jackson and Swinnen (1994).

price gap would be smaller in 2000 than it was in 1993.

The future price gap between the EU and the Visegrad-4 countries will also depend on real exchange rate developments. If real exchange rates in the Visegrad-4 countries were to depreciate vis-à-vis the ECU, then the price gap would widen, and vice versa. Whether the Visegrad-4 currencies are now overvalued or undervalued is not clear, but both hypotheses are well argued. In the model runs (and in the prices for 2000 in figure 3), real exchange rates are assumed constant.

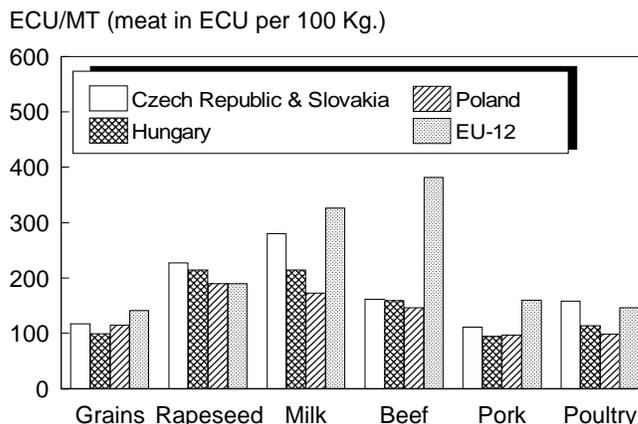
Visegrad-4 agricultural policies have become increasingly similar to the CAP, although in practice they are not implemented in the same way as those under the CAP. For most core products there is a more or less rigid price guarantee often protected by import measures and export subsidies.

In modeling the Visegrad-4 country policies, for a number of products the same price policy instruments as are used under the CAP are assumed to apply. For products such as cereals, sugar, dairy products (butter and SMP), and beef, Visegrad-4 countries are modeled to implement price band policies equivalent to those resulting from intervention and threshold prices in the CAP. The locations of these price bands for the Visegrad-4 countries are determined to fit actual prices and net trade positions observed in 1993. From that starting position, price bands are then assumed to move in accordance with the assumptions made in the respective scenarios for individual runs (i.e., kept constant in real terms, or approaching CAP levels under accession scenarios).

Scenario Results

In the base scenario, as well as in scenarios 1 and 2, the CEEC-4 are assumed to remain outside the EU. Moreover, their national policies are assumed to be pursued without regard to a future possible accession to the EU. For most products, the CEEC-4 are assumed to shape their domestic market and trade policies such that their domestic market prices are kept constant, in real terms, at their 1993 levels. This is particularly true for cereals, milk, and beef, where

Figure 3
Prices of major agricultural products in the CEEC-4 countries and in the EU, 1993



Source: National Statistics, Organization of Economic Cooperation and Development, 1994b and 1995, International Monetary Fund.

the CEEC-4 have generally established market regimes that provide for some form of more or less stringent price guarantee to domestic producers. For oilseeds and cereal substitutes, the CEEC-4 are assumed to maintain the tariff policies that were in place in 1993.

For pork, poultry, and eggs, the assumption for the base scenario is that domestic and trade policies aim at a given net trade volume that existed in 1993. Domestic market prices are determined endogenously such that this net trade volume is maintained. No production quotas are assumed, and set-aside as well as compensation payments are assumed to be non-existent, as was the case in 1993.

In scenarios 3 and 4, the Visegrad-4 are assumed to join the EU in the year 2000 and to adopt the CAP as defined under those scenarios at that time. Moreover, under these scenarios, the CEEC-4 are assumed to begin aligning their policies with the CAP in the year 1996, after having pursued their domestic policies until 1995 as defined in the base scenario. In other words, under scenarios 3 and 4, the CEEC-4 are treated as if they know what price levels and other policies the EU is going to have in the year 2000 (namely, the policies defined for the EU in the respective scenario for the CAP).

The CEEC-4 are assumed to embark, beginning in 1996, on a smooth price-policy trajectory such that the gap between prices and policies that still existed in 1995 is reduced by one-fifth in each subsequent year. Full policy alignment with the CAP is thus achieved in the year 2000. In scenarios 3 and 4, accession to the EU and full implementation of the CAP in 2000 is also assumed to mean that set-aside and compensation payments as introduced into the CAP under the MacSharry reforms are extended to the CEEC-4.

Milk and sugar quotas are assumed not implemented in the CEEC-4 even after their accession to the EU in order to get a better feel for supply pressure in the CEEC-4. For pork, poultry, and eggs, the assumption, in line with the base scenario and scenarios 1 and 2, is that there is one aggregate net trade target for the enlarged EU. This aggregate net trade is the sum of the net trade targets which all members of the EU had prior to CEEC accession.

Scenarios 1 and 2 will not be presented here, as they pursue the same policies with the same results as under the base scenario. Instead, scenario 3a is presented where no set aside is required and hence no compensation payments are made in the CEEC-4. This scenario is introduced as a possible solution to the budget problems pointed out above.

Results for the CEEC-4 are significantly affected by their accession to the EU, though not always in the way expected. Grain production is a particularly interesting case (figure 4 and table 17). Under the base scenario, total grain production in 1995 is some 15 percent less than in the base period (1989-91 average) because of the decline in production during the transition period.

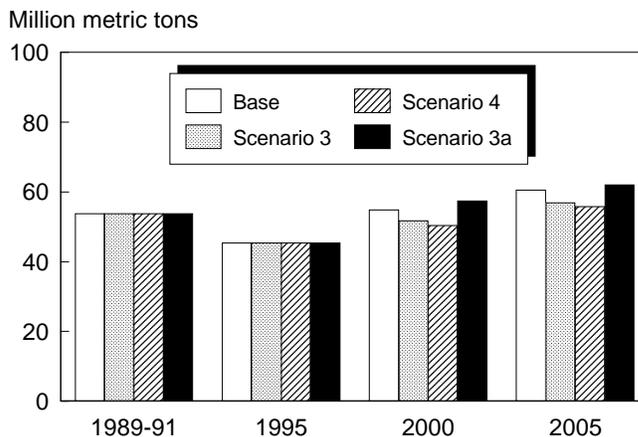
By 2000, total Visegrad-4 grain production in the base scenario recovers to approximately the volume during the base period, around 55 million tons, reflecting the assumptions made regarding supply shifters in the CEEC-4. By the year 2005, yield growth adds another 5.6 million tons to CEEC-4 grain production. This pattern of output changes under the base scenario is apparent for all products. However, accession to the EU and implementation of the CAP, as assumed under scenario 3, results in less CEEC-4 grain production in

2000 and 2005 than under the base scenario. This may appear surprising, given that accession to the EU triggers a price rise in the CEEC-4 (for wheat, figure 5 and table 18). The reason for this somewhat unexpected result is the assumption that full implementation of the CAP in the CEEC-4 includes set-aside and compensation payments; higher prices on EU accession stimulate production less than it is reduced by implementation of set-asides. The effect of set-aside and compensation payments on CEEC grain production is demonstrated by scenario 3a, where all factors are identical to those in scenario 3 except that set aside and compensation payments are assumed not applied to the CEEC-4.

As can be seen in figure 4, under scenario 3a, total CEEC-4 grain production responds positively to the price rise resulting from accession to the EU in the year 2000, and is significantly higher than under scenario 3 where set-aside and compensation payments are assumed to have been applied to the CEEC-4. One of the most interesting questions is how set-aside and compensation payments extended to the CEEC-4 affect the EU budget, which will be discussed again below.

Production of oilseeds in the CEEC-4 responds slightly positively to EU accession (table 17), but this is not due to price changes. Indeed, oilseed prices in the CEEC-4 drop somewhat on EU accession (see rape-

Figure 4
CEEC-4 total grain production under alternative scenarios



Source: European Simulation Model.

seed prices in table 18) as EU zero tariffs on oilseeds are then applied to the CEEC-4 as well. The slightly positive supply response for oilseeds on EU accession is mainly due to compensation payments assumed to be extended to CEEC-4 oilseed production under scenario 3.

CEEC-4 production of sugar and milk, assumed not constrained by quotas under scenario 3, increases strongly upon accession to the EU because of the significant price rise resulting from inclusion in the CAP (tables 17 and 18). With lower CAP support prices assumed under scenario 4, CEEC-4 production of both sugar and milk is somewhat less than under an unreformed CAP as implied in scenario 3. However, even under scenario 4, CEEC-4 prices for these products are still higher than in the absence of EU accession (base scenario), so CEEC-4 production in scenario 4 is higher than in the absence of EU accession.

The Quota Dilemma: Sugar and Dairy Impacts for the CAP

Enlargement to the east has important implications for future EU policies in the sectors of sugar and milk. The EU has two options: (1) Reform the CAP for sugar and milk with quotas abolished and support prices reduced, or (2) extend the quota regimes for sugar and milk to the CEEC-4. Quota extension to the CEEC-4 is required because, with these countries' potential, production would otherwise rapidly expand in response to high CAP support prices.

Nonimposition of quotas would also be politically difficult to accept by farmers in the "old" member states of the EU whose production is constrained by quotas in the EU-15 while sugar and milk output in the CEEC-4 remains unconstrained.

Table 17—Production and use of major agricultural products under alternative scenarios

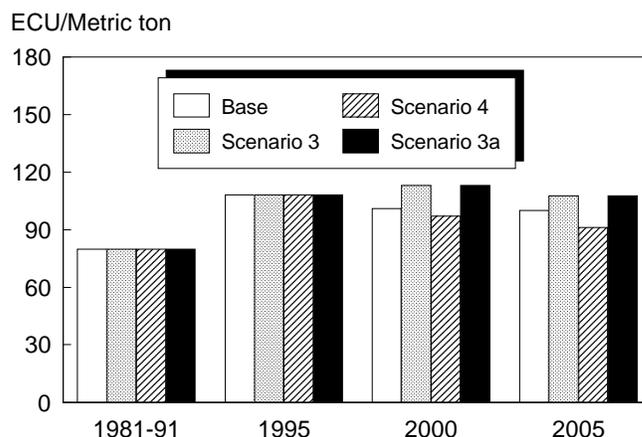
Product	Production				Total use			
	1989/91	1995	2000	2005	1989/91	1995	2000	2005
	<i>Million tons</i>				<i>Million tons</i>			
Total grain								
Base	53.75	45.38	54.85	60.45	51.90	41.17	43.07	45.43
Scenario 3	53.75	45.40	51.71	56.89	51.90	41.85	45.93	49.22
Scenario 4	53.75	45.40	50.38	55.70	51.90	41.85	47.35	50.81
Wheat								
Base	21.56	18.19	22.76	25.05	20.11	16.55	17.81	18.84
Scenario 3	21.56	18.22	21.13	23.36	20.11	16.65	19.14	20.17
Scenario 4	21.56	18.22	20.42	22.39	20.11	16.65	20.07	21.47
Coarse grain								
Base	32.19	27.18	32.09	35.40	31.80	24.63	25.26	26.58
Scenario 3	32.19	27.19	30.59	33.53	31.80	25.19	26.79	29.05
Scenario 4	32.19	27.19	29.95	33.31	31.80	25.19	27.28	29.34
Barley								
Base	9.35	8.05	9.15	10.03	9.36	8.05	8.86	9.42
Scenario 3	9.35	8.06	8.97	9.97	9.36	8.14	8.31	8.88
Scenario 4	9.35	8.06	8.56	9.62	9.36	8.14	8.87	9.48
Sugar								
Base	3.33	2.99	3.21	3.51	3.02	3.07	3.38	3.64
Scenario 3	3.33	2.99	4.71	5.04	3.02	3.07	2.98	3.24
Scenario 4	3.33	2.99	4.19	4.49	3.02	3.07	3.14	3.42
Oilseeds								
Base	2.63	2.33	2.79	3.03	2.63	2.33	2.79	3.03
Scenario 3	2.63	2.31	2.89	2.84	2.63	2.31	2.89	2.84
Scenario 4	2.63	2.31	3.05	2.85	2.63	2.31	3.05	2.85

Cont.

If quotas were maintained with eastern enlargement, then the difficult issue remains: which base to use for allocating quotas to CEEC-4 producers. If results generated by ESIM tell a realistic story, then a quota allocation to the CEEC-4 based on their sugar and milk output in the mid-1990's would constrain them far below their actual production potential under support prices which EU farmers have enjoyed for a long time.

On the other hand, quota allocation on the basis of CEEC output immediately before their accession would amount to an invitation to the CEEC's to make the fullest possible use of their production potential during the pre-accession period. In this case, the resulting surplus production in the CEEC-4 prior to accession would require them to bear heavy budgetary costs, essentially in order to create property rights to

Figure 5
Wheat prices in the CEEC-4 under alternative scenarios, weighted average



Source: European Simulation Model.

Table 17—Production and use of major agricultural products under alternative scenarios (cont.)

Product	Production				Total use			
	1989/91	1995	2000	2005	1989/91	1995	2000	2005
	<i>Million tons</i>				<i>Million tons</i>			
Rapeseed								
Base	1.77	1.47	1.89	2.03	1.18	1.17	1.17	1.17
Scenario 3	1.77	1.45	1.90	2.06	1.18	1.17	1.16	1.16
Scenario 4	1.77	1.45	2.03	2.16	1.18	1.17	1.16	1.16
Milk								
Base	25.33	21.26	23.69	26.26	25.33	21.26	23.69	26.26
Scenario 3	25.33	21.26	29.92	32.56	25.33	21.26	29.92	32.56
Scenario 4	25.33	21.26	28.05	30.48	25.33	21.26	28.05	30.48
Butter								
Base	0.47	0.35	0.41	0.46	0.47	0.34	0.37	0.39
Scenario 3	0.47	0.35	0.61	0.66	0.47	0.34	0.27	0.29
Scenario 4	0.47	0.35	0.51	0.55	0.47	0.34	0.28	0.30
Beef								
Base	1.32	1.15	1.20	1.32	1.25	1.20	1.29	1.40
Scenario 3	1.32	1.14	1.60	1.75	1.25	1.20	0.93	1.02
Scenario 4	1.32	1.14	1.51	1.65	1.25	1.20	1.00	1.09
Pork								
Base	3.85	3.23	3.29	3.61	3.61	3.23	3.46	3.75
Scenario 3	3.85	3.33	4.32	4.80	3.61	3.20	3.21	3.50
Scenario 4	3.85	3.33	4.32	4.79	3.61	3.20	3.27	3.56
Poultry								
Base	0.97	0.79	0.71	0.72	0.77	0.83	0.94	1.05
Scenario 3	0.97	0.88	0.89	0.93	0.77	0.81	0.89	0.99
Scenario 4	0.97	0.88	0.92	0.96	0.77	0.81	0.89	1.00

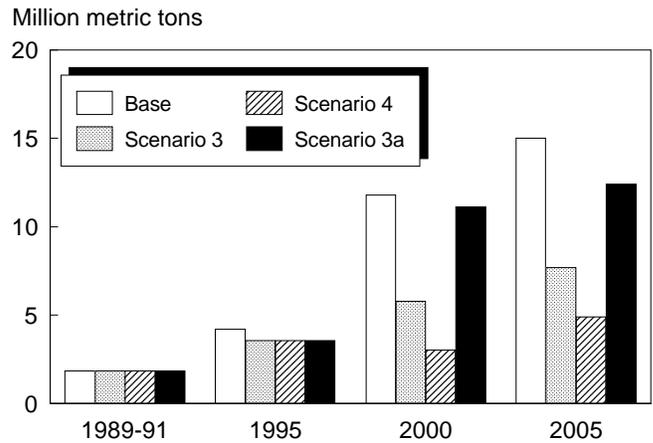
Source: European Simulation Model

expected quota benefits under the CAP after joining the EU.

Net Effects on Grains and Livestock

CEEC-4 production of beef, pork, and poultry expands strongly with EU accession, reflecting higher EU prices (tables 17 and 18). With reduced CAP support prices (scenario 4), beef production in the CEEC-4 after accession is still significantly higher than in the base scenario. Pork production in the CEEC-4 does not change when CAP prices are reduced (compare scenarios 3 and 4) because pork prices, which are not subject to domestic price support in the EU, fall parallel with prices of cereals and other feeds, leaving the profitability of pork production unchanged. For poultry, the feed-price reduction (under scenario 4) is

Figure 6
CEEC-4 net grain exports under alternative scenarios



Source: European Simulation Model.

Table 18—CEEC-4 aggregate net exports and market prices of major agricultural products under alternative scenarios

Product	Net exports				Market price			
	1989/91	1995	2000	2005	1989/91	1995	2000	2005
	<i>Million tons</i>				<i>ECU/t</i>			
Total grain								
Base	1.85	4.20	11.78	15.02	na	na	na	na
Scenario 3	1.85	3.55	5.79	7.67	na	na	na	na
Scenario 4	1.85	3.55	3.02	4.89	na	na	na	na
Wheat								
Base	1.45	1.65	4.95	6.20	80	108	101	100
Scenario 3	1.45	1.56	1.99	3.19	80	108	113	108
Scenario 4	1.45	1.56	0.35	0.92	80	108	97	91
Coarse Grain								
Base	0.40	2.56	6.84	8.82	na	na	na	na
Scenario 3	0.40	1.99	3.79	4.48	na	na	na	na
Scenario 4	0.40	1.99	2.67	3.97	na	na	na	na
Barley								
Base	-0.01	0.00	0.29	0.61	78	101	93	92
Scenario 3	-0.01	-0.08	0.66	1.09	78	101	113	108
Scenario 4	-0.01	-0.08	-0.31	0.14	78	101	96	91
Sugar								
Base	0.32	-0.08	-0.17	-0.13	392	428	403	397
Scenario 3	0.32	-0.08	1.73	1.80	392	428	609	579
Scenario 4	0.32	-0.08	10.5	1.07	392	428	516	491
Rapeseed								
Base	0.59	0.30	0.72	0.87	185	228	218	210
Scenario 3	0.59	0.28	0.73	0.90	185	223	215	207
Scenario 4	0.59	0.28	0.87	0.99	185	223	210	204

Cont.

sufficient to stimulate output in the CEEC-4, despite lower poultry prices.

Under the base scenario, the CEEC-4 countries are projected to have an exportable grain surplus of nearly 12 million tons in the year 2000, an increase of around 10 million tons of grain surplus over the base period (1989-91). Only 1 million tons are projected to originate from higher output while 9 million tons of the increase is due to lower domestic demand, mainly for feed use. By 2005, net exports of cereals in the CEEC-4 is forecast to rise by another 3 million tons (table 18 and figure 6).

Accession to the EU (under scenario 3) adds around 3 million tons to domestic grain use in the CEEC-4 in 2000 due to higher livestock production in response to better CAP prices. At the same time, grain production shrinks by around 3 million tons under scenario 3, reflecting set-aside under the CAP. Accession to the EU under these assumptions reduces net export avail-

ability of grain in the CEEC's in 2000 by 6 million tons.

Growth of CEEC cereal net exports between 2000 and 2005 is only less than 2 million tons under this scenario. Rather than adding to CEEC surplus production of cereals, accession to the EU under the policy assumptions made here makes net export availability of cereals decrease. Set-aside is an important factor in this equation. Even if set aside is not extended to the CEEC-4, higher grain utilization due to more livestock production would still mean lower net exports of grains from the CEEC-4 when they are included in the CAP compared to the base scenario. In addition, the composition of exports is different, i.e., less wheat exports and somewhat higher exports of coarse grains (scenario 3a in figure 6).

Net exports of other major products under the different scenarios are more in line with usual expectations (table 18 and figure 7). For rapeseed, domestic use

Table 18—CEEC-4 aggregate net exports and market prices of major agricultural products under alternative scenarios (cont.)

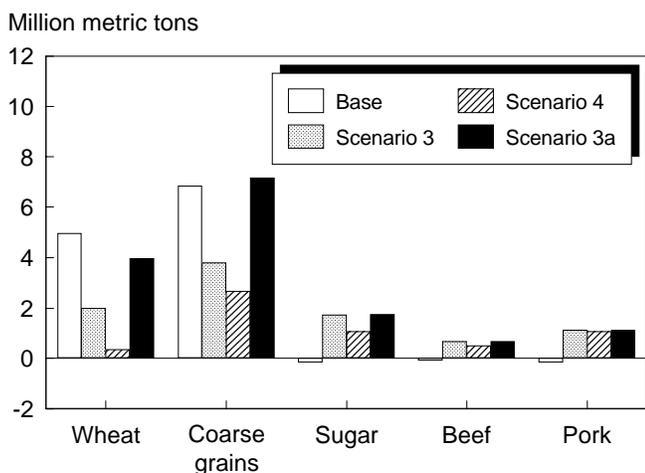
Product	Net exports				Market price			
	1989/91	1995	2000	2005	1989/91	1995	2000	2005
	<i>Million tons</i>				<i>ECU/t</i>			
Milk								
Base	0.00	0.00	0.00	0.00	169	189	189	189
Scenario 3	0.00	0.00	0.00	0.00	169	189	311	295
Scenario 4	0.00	0.00	0.00	0.00	169	189	263	250
Butter								
Base	0.00	0.02	0.04	0.07	1768	1709	1634	1627
Scenario 3	0.00	0.02	0.34	0.37	1768	1708	3362	3197
Scenario 4	0.00	0.02	0.23	0.25	1768	1708	2851	2711
Beef								
Base	0.07	-0.05	-0.09	-0.08	1436	1458	1507	1480
Scenario 3	0.07	-0.05	0.67	0.73	1436	1450	2999	2852
Scenario 4	0.07	-0.05	0.51	0.55	1436	1450	2543	2418
Pork								
Base	0.24	-0.00	-0.17	-0.14	1087	986	1013	983
Scenario 3	0.24	0.13	1.11	1.30	1087	999	1333	1260
Scenario 4	0.24	0.13	1.05	1.23	1087	999	1247	1178
Poultry								
Base	0.20	-0.04	-0.23	-0.032	1253	1069	969	884
Scenario 3	0.20	0.07	0.00	-0.07	1253	1126	1277	1141
Scenario 4	0.20	0.07	0.03	-0.04	1253	1126	1210	1080

na=not applicable.

Source: European Simulation Model

Figure 7

CEEC-4 net exports of major products in 2000 under alternative scenarios



Source: European Simulation Model.

(for crushing) is almost unaffected by EU accession, and net exports reflect the output effect described above. For sugar, butter, beef, pork, and poultry, the positive output effect of high prices in the CAP is amplified by the negative consumption response to higher prices, and net export availability is greatly increased as a result.

A significant part of increased pork and poultry net exports from the CEEC-4 will go to the rest of the EU, rather than to third countries. As a result, pork and poultry producers in the EU-12 will face growing competition from their colleagues in the “new” member countries in the east. Given the lack of domestic EU price support for pork and poultry, increased competition from the acceding CEEC countries will depress prices in the western EU (as it does in ESIM).

Whether the CEEC-4 become large net exporters of pork does not depend on just the price but also on the quality of the pork, which requires sufficient investment to upgrade the breeding, growing, and processing of hogs to meet EU sanitary regulations and quality standards. The analytical framework can only account for price differentials and assumes quality to be the same; whether over the next 10 years the CEEC’s can match the quality of EU pork and export to EU countries remains to be seen. Environmental problems in the EU-12 in pork production may in fact favor the transfer of production to the CEEC-4.

Dutch and Danish hog producers are already investigating the possibility of transferring production to the CEEC-4. With Dutch and Danish capital and know-how, CEEC-4 production and quality could improve significantly over the next few years.

The pork and poultry sectors may be where the effects of eastern enlargement are most directly felt by farmers in the EU-12. However, with lower CAP prices (scenario 4), net exports of the CEEC-4 are somewhat reduced for all except poultry, where the output increase mentioned above results in slightly higher net exports. The point is that the CEEC-4 will put pressure on livestock markets within the EU and is less likely to pressure the world market.

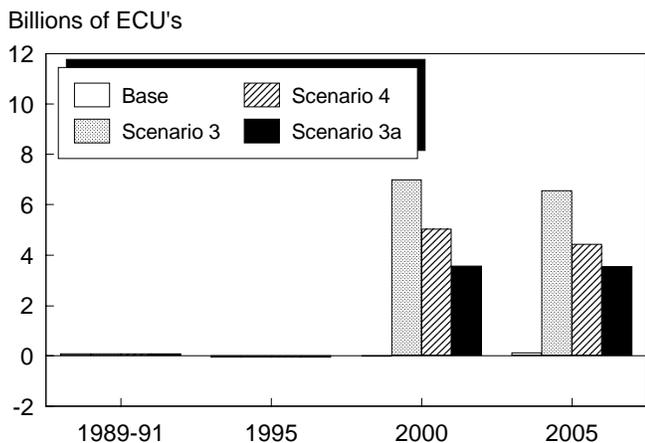
Budget Effects for the CAP and the CEEC-4

The most dramatic effects of CEEC-4 accession occur in the budget sector (figure 8). If the CEEC-4 countries do not join the EU (base scenario), their net budget expenditure on agricultural market policies (subsidies less tariff revenues) remains negligible for the projection period. However, if the CEEC-4 join the EU and implement CAP reform as it stands (scenario 3), then budget expenditure at the time of accession shoots up to around 7 billion ECU (in 1993 ECU’s). With a more restrictive level of support prices under the CAP (scenario 4), 2 billion ECU’s in expenditure can be saved in the CEEC-4, but even then expenditure is some 5 billion ECU’s higher than with a continuation of 1993 CEEC policies. Budget expenditures under the accession scenarios decline somewhat from 2000-2005 because domestic EU prices are assumed to decline in real terms, and thereby come a little closer to world market prices.

These figures contain a number of important messages. CEEC-4 accession will place a heavy burden on the EU budget if the CAP is not changed. Budget problems will be exacerbated if quotas are not imposed on CEEC-4 sugar and milk production (as assumed under scenario 3). Compared with projected CAP expenditures for an EU not including the CEEC’s, the magnitude of potential CAP expenditures in the CEEC-4 is put in perspective.

Figure 8

Budget costs for CEEC's under alternative scenarios



Source: European Simulation Model.

Under scenario 3, expenditures projected for 2000 by ESIM is 13.9 billion ECU's for agriculture in the EU-15. ESIM does not cover all types of CAP expenditures, as noted before. The expenditures reported here, for both the EU and the CEEC-4, are considerably below actual CAP expenditure. Expenditures for the CEEC-4 of 7 billion ECU's means that their accession raises CAP expenditures by approximately 50 percent. For the year 2005, the predicted expenditure increase due to CEEC-4 accession is similar in percentage terms.

The percent increase of CAP expenditures resulting from enlargement is important under the formal budget guideline mechanism for the CAP. According to that mechanism, European Agriculture Guarantee and Guidance Fund (FEOGA) guarantee expenditure (in real terms) must not grow by more than 0.74 times the rate of (real) growth of GDP in the Union. In the past, that mechanism applied only to growth over time, and will continue to do so.

When the EFTA-3 countries acceded to the EU in 1995, the same mechanism was used across countries to calculate the additional FEOGA expenditures allowable due to enlargement in relation to the EFTA-3 countries' contribution to GDP in the EU. If that same principle were to be applied to CEEC accession, then FEOGA guarantee expenditures should not be allowed to increase by more than approximately 3

percent on CEEC enlargement (table 16). The additional CAP expenditures projected by ESIM would exceed that margin by far, the first important message of CEEC enlargement.

Three different conclusions can be drawn from the costs associated with accession of the CEEC-4:

- It is sometimes argued that the EU is unable to absorb the CEEC-4, or at least not their agriculture. For political and economic reasons, such a conclusion is untenable. The Union has the political will to take the CEEC-4 aboard, and CEEC-4 accession with agriculture not included is an unconvincing proposition.
- Overall, political and economic benefits of CEEC accession to the EU could be argued to be so large that side issues such as the CAP budget guideline and general considerations as budgetary concerns should simply be disregarded. The political difficulties that could be created in the member states from Brussels' need for more available finance, should not be underestimated. A cautious strategy would make sure that such difficulties do not reduce the political acceptability, in the general public, of CEEC accession.
- Another conclusion derives from the high budget burden that an extension of the post-MacSharry CAP to the CEEC-4 is likely to create, which is a good reason to consider more changes in the CAP. From many points of view this conclusion seems the most convincing.

A second type of message that can be derived from the budget results reported in figure 8 concerns the direction in which future changes of the CAP might go. A reduction of the level of price support would certainly be a step in the right direction. The price cuts considered under scenario 4 would not only save (in comparison with scenario 3) 2 billion ECU's in the CEEC-4, it would also save 3 billion ECU's in CAP expenditures in the existing EU.

Another related consideration is the CAP system of compensation payments and set-asides. As shown in figure 8, expenditures in the CEEC-4 under scenario 3a in 2000 and 2005 is some 3.5 billion ECU's less than under scenario 3. This saving is due both to less

expenditures (on export subsidies) due to nonintroduction of set-asides and to less expenditures due to nonpayment of compensation in the CEEC-4. Given that an expenditure of this magnitude is involved, the future of set-aside and compensation payments under the CAP may have to be reconsidered in the context of CEEC accession.

Third, before accession to the EU, the CEEC-4 have to finance their agricultural policies out of their national budgets. Hence, the budget figures presented in figure 8 can also be interpreted as showing expenditures to be borne by the CEEC-4 if they were to align their policies with the CAP without actually joining the EU.

For example, if the CEEC-4 were to adopt CAP price levels by the year 2000 without quotas, set-asides, or compensation payments (scenario 3a), then in aggregate they would have to finance export subsidies (net of import tariffs) at the rate of 3.5 billion ECU's. This figure would be considerably above expected expenditures under a continuation of their 1993 real prices in the base scenario. If accession were to take a few more years to materialize, then the CEEC's would have to continue to bear that expenditure burden out of their national budgets until they can finally join the EU. Given the difficulty of making any prediction regarding the date of CEEC accession, this would be a rather dangerous uncertainty for future agricultural policy in the CEEC's.

Likely EU Approaches to the CEEC "Agricultural" Problem

Based on the results obtained in this analysis, future accession by the Visegrad-4 countries (and, by implication, of other CEEC's), would affect agricultural markets and policy conditions in the EU significantly, much more so than accession by the EFTA countries. However, the exact type of the implications to be expected, and the situation for individual commodities, will depend on the nature of the CAP at the time the EU is enlarged. Three major alternative future strategies are conceivable for the CAP in the face of eastern enlargement of the EU.

Alternative Enlargement Strategies

The first strategy would be to exclude CEEC-4 agriculture from the CAP; the CEEC-4 would join the EU, but, through specific agricultural border measures, their agricultural markets and policies would be kept outside for a long, indefinite transition period. This strategy, though technically feasible, would be politically difficult to accept. Access to EU agricultural markets is one of the major economic benefits the CEEC-4 expect from joining the EU. Moreover, keeping CEEC-4 agriculture outside would mean that border controls, and hence non-implementation of the Single Market, would be required just for the sake of agricultural policies. Strategies that would allow the CEEC's to come aboard with their agricultural sectors would probably be more prudent.

A second strategy would be to maintain the CAP unchanged after the full implementation of the MacSharry reform and extend that policy fully to the CEEC-4, or scenario 3. In order to reduce the excessive extra-budgetary costs for the CAP under scenario 3, it would then be necessary to maintain, and possibly intensify, supply controls in the EU and to impose these controls on the CEEC's. Set-aside would also be required in the CEEC's, and production quotas would be implemented for sugar and milk.

To what extent the imposition of quotas on CEEC sugar and milk production would result in savings against the results presented here under scenario 3 depends on the quota levels that can be negotiated with the CEEC-4, a politically difficult problem in itself. Under this strategy it would be hard to exclude the CEEC's from compensation payments paid out of the EU budget. Exclusion of the CEEC-4 from the EU's financed compensation payments would not only be unfair in a distributional sense, but also distortive as disparate production incentives would be provided for agricultural producers in the west and the east of an enlarged EU.

It would also be essentially impossible to implement set-aside in the CEEC-4 if compensation payments were not extended, as the only incentive to participate in set-aside for farmers would be the loss of compensation payments resulting from nonparticipation in the

set-aside program. However, inclusion of the CEEC-4 in the MacSharry compensation payments would cost the EU significantly more than is saved by lower surplus production of cereals as a result of set-aside. Moreover, it is not really clear why compensation payments should be extended to the CEEC-4. Compensation payments are thought to compensate EU farmers for the loss in revenue resulting from the price reductions implemented as part of the MacSharry reform. Such price reductions will not occur in the CEEC-4 in the course of their accession to the EU.

This strategy would complicate the EU's and the CEEC-4's commitments to the GATT and the WTO. Alignment of agricultural policies in the Visegrad-4 countries with an unreformed, post-MacSharry CAP by the year 2000 would seriously threaten these countries' ability to honor their GATT commitments in agriculture. If the Visegrad-4 countries were to move their agricultural policies gradually toward an unreformed, post-MacSharry CAP (as assumed in scenario 3), they would likely violate a large part of their GATT commitments before the year 2000. Also, tariff bindings in the Visegrad-4 countries (except Poland) are below those of the EU and would not provide sufficient protection for moving domestic prices toward those in the EU. In addition, the higher exports from the Visegrad-4 countries that result from price alignment with the EU would not be consistent with many export subsidy bindings of the Visegrad-4 countries. Even if the Visegrad-4 countries were to pursue their policies in line with their GATT commitments before accession but then had to implement an unreformed CAP after accession, the enlarged EU would have major difficulties in the GATT negotia-

tions pursued under Article XXIV:6 under the customs union code. Compensation for trade damage, which the EU would likely have to offer its trading partners in the GATT, might simply be too high.

A third strategy for the CAP might be to reduce support prices further after the MacSharry reform, possibly to the point where export subsidies are no longer necessary in most years, such as in scenario 4. As part of this strategy, set-aside could be relaxed or eliminated, and quotas for sugar and milk could be abandoned if price cuts for these products were sufficient. Compensation could be paid for both past and future price cuts, but ideally any compensation would be decoupled completely from production. Moreover, turning over responsibility for compensation payments to member states would be more reconcilable.

This reform strategy, if announced and embarked upon in time, would set a completely different and more realistic target for future policies in the CEEC's. The CEEC's would be less tempted to raise their levels of protection and support if they knew the CAP would have to be reformed again after they joined the EU.

Under this strategy, compensation payments financed from Brussels would not necessarily have to be paid to farmers in the CEEC's. Compliance with GATT commitments in agriculture would be far less of a problem for both the EU and the CEEC's. Successful preparation in agriculture for a smooth incorporation of the CEEC's into the EU in the decade to come may require the EU to consider this strategy very carefully.²⁶

²⁶ The EU Commission (1995b) argued similarly in its Agricultural Strategy Paper, an important document issued after the present study was completed. For its projections of future market developments in the CEEC, as presented in the Commission's paper, the Commission relied partly on ESIM runs done specifically for that purpose. As both the policy scenarios and a number of assumptions used for those runs were different from those used for the present study, the results are not strictly comparable.